

IN THE CLAIMS:

Claims 1-31 (Canceled)

32. (Withdrawn) A method of screening for anticancer activity of a drug candidate comprising contacting a cell that expresses a cancer associated (CA) gene encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41, with an anticancer drug candidate; and monitoring an effect of the anticancer drug candidate on expression of the CA polynucleotide; wherein an anticancer drug candidate which reduces expression of the nucleic acid is identified as a drug having anticancer activity and wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

Claims 33-37 (Canceled)

38. (Withdrawn) The method of screening for anticancer activity according to claim 32, wherein the drug candidate is a signaling protein antagonist.

Claim 39 (Canceled)

40. (Withdrawn) A method for detecting cancer associated with expression of a polypeptide encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a patient sample, comprising comparing a level of expression of the polypeptide in the patient sample with a level of expression of the polypeptide in a normal sample, wherein an altered level of expression of the polypeptide in the patient sample relative to the level of polypeptide expression in the normal sample is indicative of the presence of kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer in the patient sample, wherein said nucleotide sequence at least 95% identical to SEQ ID NO: 41 encodes a polypeptide with signaling activity.

41. (Withdrawn) The method of claim 40, wherein a higher level of expression of the polypeptide in the patient sample relative to the level of polypeptide expression in the normal sample is indicative of the presence of cancer in the patient sample.

42. (Withdrawn) A method for detecting cancer associated with expression of a polypeptide encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a patient sample, comprising comparing a level of signaling activity of the polypeptide in the test sample with a level of signaling activity of the polypeptide in a normal sample, wherein an altered level of signaling activity of the polypeptide in the patient sample relative to the level of polypeptide signaling activity in the normal sample is indicative of the presence of kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer in the patient sample, wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

43. (Withdrawn) A method for detecting cancer associated with the presence of an antibody in a patient sample, wherein the antibody specifically binds a polypeptide having an amino acid sequence at least 95% identical to SEQ ID NO:42, or immunogenic fragment thereof, the method comprising comparing a level of said antibody in the patient sample with a level of said antibody in a control sample, wherein an altered level of antibody in said patient sample relative to the level of antibody in the control sample is indicative of the presence of kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer in the patient sample, wherein said polypeptide has signaling activity.

44. (Withdrawn) A method for screening for a bioactive agent capable of modulating the activity of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 comprising:

a) contacting a cell that expresses a cancer associated (CA) gene encoded by a nucleic acid sequence comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 or fragment thereof with a candidate bioactive agent; and

b) comparing the effect of the candidate bioactive agent on expression of the CA polynucleotide in the presence of the candidate agent to expression of the CA polynucleotide in the absence of the candidate agent; wherein a candidate bioactive agent which modulates the expression of the CA gene is identified as a bioactive agent capable of modulating the activity of a CAP and wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

45. (Withdrawn) The method of claim 44, wherein the cancer is kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer.

Claims 46-47 (Canceled)

48. (Withdrawn) The method of screening of claim 44, wherein the bioactive agent is a signaling antagonist.

Claims 49-51 (Canceled)

52. (Currently Amended) A method for diagnosing kidney cancer, ~~colon cancer, prostate cancer, breast cancer or stomach cancer~~ comprising:

comparing a level of a nucleic acid comprising a human nucleotide sequence at least 95% identical to SEQ ID NO: 41 in a patient sample comprising human ~~prostate, lung, bladder, breast, stomach or colon~~ kidney tissue to a level of the nucleic acid in a control sample, ~~said nucleotide sequence at least 95% identical to SEQ ID NO: 41 encoding a polypeptide with signaling activity~~ wherein an increase of at least 50% from the level of nucleic acid in the patient sample compared to the level of the nucleic acid in the control sample indicates that the patient has kidney cancer, ~~colon cancer, prostate cancer, breast cancer or stomach cancer~~.

Claim 53 (Canceled)

54. (Withdrawn) A method for treating cancer comprising administering to a patient an inhibitor of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleotides sequence at least 95% identical to SEQ ID NO:41.

55. (Withdrawn) The method for treating cancer according to claim 54, wherein the inhibitor of a CA protein (CAP) binds to the CA protein.

Claims 56-57 (Canceled)

58. (Withdrawn) The method for treating cancer according to claim 54, wherein the inhibitor of a CA protein (CAP) is a signaling protein antagonist.

Claims 59-78 (Canceled)

79. (Currently Amended) A method for diagnosing kidney cancer, ~~colon cancer, prostate cancer, breast cancer or stomach cancer~~ comprising detecting evidence of differential expression of a polypeptide encoded by a nucleic acid comprising a human nucleotide sequence at least 95% identical to SEQ ID NO:41 in a patient sample wherein evidence of differential expression of the polypeptide indicates that the patient has kidney cancer, ~~colon cancer, prostate cancer, breast cancer or stomach cancer~~.

80. (Previously Presented) The method of claim 79, wherein expression in the patient sample is upregulated relative to expression in normal tissue.

81. (Previously Presented) The method of claim 79 wherein evidence of differential expression is detected by measuring the level of a polypeptide or mRNA.

82. (Canceled)

83. (Currently Amended) The method of claim 81 wherein the polypeptide or  
mRNA has-a is encoded by a nucleic acid sequence at least 98% identical to SEQ ID NO:41.

84. (Currently Amended) The method of claim 81 wherein the polypeptide or  
mRNA has-a is encoded by the nucleic acid sequence of SEQ ID NO:41.

85. (Previously Presented) The method of claim 81 wherein the level of the  
polypeptide or mRNA in the patient sample is compared to a control.

86. (Previously Presented) The method of claim 85 wherein the control is a known  
normal tissue of the same tissue type as in the patient sample.

87. (Previously Presented) The method of claim 85 wherein the level of the  
polypeptide or mRNA in the sample is increased at least 50% relative to the control.

88. (Previously Presented) The method of claim 85 wherein the level of the  
polypeptide or mRNA in the sample is increased at least 100% relative to the control.

89. (Previously Presented) The method of claim 85 wherein the level of polypeptide or  
mRNA in the sample is increased at least 150% relative to the control.

90. (Currently Amended) The method of any one of claims 40, 42, 43, 44 or claim  
52 wherein the nucleotide sequence is at least 98% identical to SEQ ID NO:41.

91. (Currently Amended) The method of any one of claims 40, 42, 43, 44 or claim  
52 wherein the nucleotide sequence comprises the nucleotide sequence of SEQ ID NO:41.

92. (Canceled)

93. (Previously Presented) The method of claim 52 wherein the level of the nucleic acid in the patient sample is increased at least 100% relative to the control.

94. (Previously Presented) The method of claim 52 wherein the level of the nucleic acid in the patient sample is increased at least 150% relative to the control.

95. (Withdrawn) A method of diagnosing kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer comprising:

a) determining the level of a nucleic acid that hybridizes under highly stringent conditions to a nucleic acid comprising a nucleotide sequence of SEQ ID NO:41 in a patient sample; wherein hybridization is performed at 50°C to 60°C in 5X SSC (9 mM NaCl/0.9 mM sodium citrate); and

b) comparing said level of nucleic acid in (a) to a level of the nucleic acid in a second sample, said second sample comprising a negative control; wherein an increase of at least 50% between the level of the nucleic acid in (a) and the level of the nucleic acid in the second sample indicates that the patient has kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer.

96. (Withdrawn) The method of claim 95 wherein the level of the nucleic acid in (a) is increased at least 50% relative to the control.

97. (Withdrawn) The method of claim 95 wherein the level of the nucleic acid in (a) is increased at least 100% relative to the control.

98. (Withdrawn) The method of claim 95 wherein the level of the nucleic acid in (a) is increased at least 150% relative to the control.